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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE 23.Mar.05	3. REPORT TYPE AND DATES COVERED MAJOR REPORT		
4. TITLE AND SUBTITLE THE TRAJECTORY OF HEALTH-RELATED QUALITY OF LIFE IN PATIENTS WITH HEART FAILURE		5. FUNDING NUMBERS		
6. AUTHOR(S) MAJ DEJONG MARLA J				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) UNIVERSITY OF KENTUCKY LEXINGTON		8. PERFORMING ORGANIZATION REPORT NUMBER CI04-1006		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) THE DEPARTMENT OF THE AIR FORCE AFIT/CIA, BLDG 125 2950 P STREET WPAFB OH 45433		10. SPONSORING/MONITORING AGENCY REPORT NUMBER		
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION AVAILABILITY STATEMENT Unlimited distribution In Accordance With AFI 35-205/AFIT Sup 1		12b. DISTRIBUTION CODE		
13. ABSTRACT (Maximum 200 words)				
14. SUBJECT TERMS		15. NUMBER OF PAGES 6		
		16. PRICE CODE		
17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT	

Title: The Trajectory of Health-Related Quality of Life in Patients with Heart Failure

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Background & Significance

- Patients with heart failure (HF) experience worse health-related quality of life (HRQOL) than persons with other cardiac or chronic conditions.
- Physical symptoms, cognitive impairment, emotional distress, and complex treatment regimens adversely affect HRQOL.
- Assessment of HRQOL is important because it independently predicts mortality for patients with HF.
- Clinicians often assume that patients with preserved systolic function have better HRQOL than patients with non-preserved systolic function.
- Gender differences in HRQOL have been proposed, yet few investigators have examined the trajectory of HRQOL based on either gender or ejection fraction (EF).

Purpose

- To investigate whether the trajectory of HRQOL in patients with HF differs by gender or EF (preserved > 45%; non-preserved ≤ 45%) during the first 6 months after hospitalization.

Methods

- **Design:** Prospective, comparative sub-study of a randomized clinical trial of disease management for patients with HF. Only patients in the control group were included in this analysis.
- **Sample Inclusion Criteria:**
 - Hospitalized with HF.
 - New York Heart Association (NYHA) class II to IV HF.
 - Community dwelling.
 - No dementia, serious cognitive impairment, or psychiatric illness.
- **Settings:** Three hospitals located in the Midwest, United States of America; the Institutional Review Board at all sites approved the study.
- **Measures:**
 - Sociodemographic variables: age, education, gender, marital status, ethnicity, living arrangement
 - Health-related quality of life: Minnesota Living with Heart Failure Questionnaire – developed to measure HRQOL in HF patients; contains physical and emotional subscales, valid and reliable; scores range from 0 to 105; higher scores reflect worse HRQOL

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- **Procedure:** Patients completed the LHFQ while hospitalized, and 3 and 6 months after discharge.
- **Data Analysis:** Repeated-measures analysis of variance to determine whether the trajectory of HRQOL differed between men and women or between patients with preserved versus non-preserved systolic function.

Results

- A total of 121 patients were enrolled in the study. Selected sociodemographic and clinical characteristics of the sample are displayed in Tables 1 and 2.
- All patients reported substantially poorer HRQOL while hospitalized than at 3 months and 6 months after discharge (Table 3).
- Neither gender nor EF group interacted to produce an effect on the trajectory of HRQOL.
- Regardless of gender or EF, HRQOL improved significantly from baseline at both 3 months ($P < .001$) and 6 months ($P < .001$). Furthermore, HRQOL was better at 6 months compared to 3 months ($P < .001$) (Figures 1 and 2).

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Conclusions

- HRQOL was most impaired during hospitalization but significantly improved after discharge for both men and women, irrespective of EF.
- Based on these data, clinicians may advise male and female patients that HRQOL will likely improve after discharge.
- Clinicians should be aware that HRQOL is appreciably impaired even for HF patients with a preserved EF.

Table 1: Selected Sociodemographic Characteristics (N = 121)

Characteristic	Mean \pm SD or n (%)
Age (years)	70.0 \pm 11.3
Education (years)	12.0 \pm 3.2
Married	56 (46.3%)
Female gender	60 (49.6%)
White ethnicity	107 (88.4%)

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Table 2: Selected Clinical Characteristics (N = 121)

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Characteristic	Mean ± SD or n (%)
Ejection fraction	39.0 ± 16.8
NYHA classification	
I/II	52 (43.0%)
III/IV	69 (57.0%)
History of AMI	31 (25.6%)
History of PCI	17 (14.0%)
History of CABG	32 (26.4%)
History of HTN	89 (73.6%)

Table 3: Changes in Health-Related Quality of Life Scores Over Time

	<u>While Hospitalized</u>	<u>3 Months after Discharge</u>	<u>6 Months after Discharge</u>
<u>Total Sample (N = 121)</u>	<u>49.7</u>	<u>33.5</u>	<u>25.9</u>
<u>Men (n = 61)</u>	<u>50.5</u>	<u>32.9</u>	<u>27.7</u>
<u>Women (n = 60)</u>	<u>48.8</u>	<u>34.1</u>	<u>24.1</u>

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Figure 1: Health-Related Quality of Life Over Time for Females by Ejection Fraction

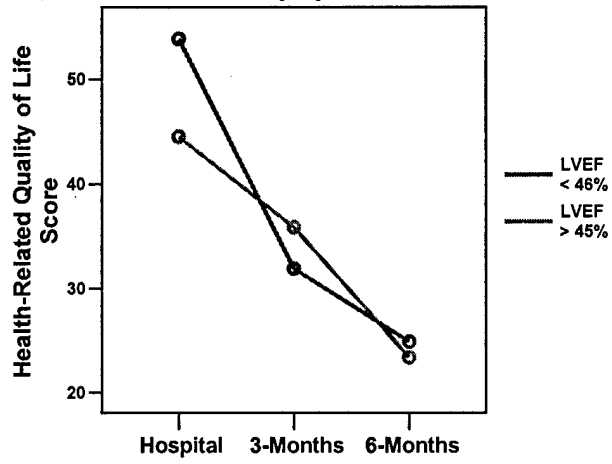
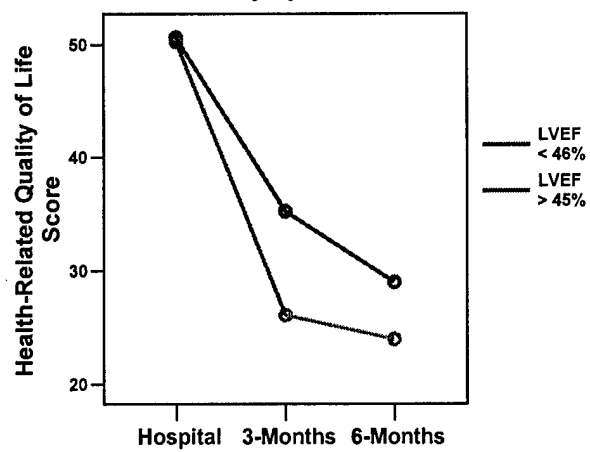


Figure 2: Health-Related Quality of Life Over Time for Males by Ejection Fraction



Changes in Health-Related Quality of Life Over Time

	Total Sample <u>N</u> = 121	Men <u>n</u> = 61	Women <u>n</u> = 60
LHFQ Score While Hospitalized	49.7	50.5	48.8
LHFQ Score 3 Months after Discharge	33.5	32.9	34.1
LHFQ Score 6 Months after Discharge	25.9	27.7	24.1